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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,138	03/06/2001	Hyae-Ryoung Lee	5649-553DV	7287

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EXAMINER

BROCK II, PAUL E

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,138

Applicant(s)

LEE, HYAE-RYOUNG

Examiner

Paul E Brock II

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35,36,38 and 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35,36,38 and 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/103,970.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how the conductive pattern can be formed to both "form a closed via" and "fill the closed via". If the forming of the conductive pattern forms the closed via as recited in claim 35; then the forming of the conductive pattern cannot fill the closed via. For purposes of this office action claim 36 will be considered --wherein the step of forming the conductive pattern comprises the step of forming the conductive pattern filling the via hole and on the dielectric layer opposite the substrate--.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in

section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 35, 36, 38, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato (USPAT 5739587).

With regard to claim 35, Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 a method of forming a bonding pad for an integrated circuit. Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 forming a dielectric layer (60) on an integrated circuit substrate (10 and 110). Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 forming a via hole in the dielectric layer to expose the substrate. Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 forming a conductive pattern in the via hole (40 and 44 of figure 3 are equivalent to 102 in figure 8) to form a closed via through the dielectric layer to the substrate to enclose an inner portion of the dielectric layer (at least portions of 60 between 40 and 41 and between 43 and 44 in figure 3) within the closed via that is separated from an outer portion (at least portions of 60 to the left of 40 and to the right of 44 in figure 3) of the dielectric layer that is outside the closed via.

With regard to claim 36, Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 wherein the step of forming the conductive pattern comprises the step of forming the conductive pattern filling the

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via hole and on the dielectric layer opposite the substrate (portion 100, as shown in figure 3, is on 60).

With regard to claim 38, Sato discloses in figures 3, 8 and 11, the abstract, lines 3 – 8 and 13 – 15, column 3, lines 31 – 40 and column 6, lines 7 – 12 and 36 – 40 wherein the closed via is of a circular via.

With regard to claim 39, Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 wherein the step of forming a dielectric layer comprises the step of forming the dielectric layer on an integrated circuit substrate, the dielectric layer including the closed via and an open via (42 in figure 3 is equivalent to 104 in figure 8) therein. Sato discloses in figures 3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40 wherein the step of forming the conductive pattern comprises the step of forming the conductive pattern in the closed via, in the open via and on the dielectric layer opposite the substrate.

Response to Arguments

5. Applicant's arguments filed January 13, 2003 have been fully considered but they are not persuasive.

6. With regard to the applicant's argument that "elements 102 and 45 in Sato are actually alternative embodiments which are mutually exclusive," it should be noted that 40 – 45 are grooves of one embodiment of Sato while 102 – 104 are grooves in another embodiment of Sato. The grooves in both embodiments are formed in a dielectric layer as disclosed by Sato in figures

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3 and 8; the abstract, lines 3 – 8 and 13 – 15; column 3, lines 31 – 40; and column 6, lines 7 – 12 and 36 – 40. For clarity both embodiments have been utilized for the rejection. Elements in the embodiments have been treated as reciprocal to each other. For example 40 and 44 of figure 3 are equivalent to 102 in figure 8. It should be clear that the embodiment of Sato that actually reads on the claimed invention is figure 8, however, figure 3 has been incorporated into the rejection in order to show what a cross section of figure 8 might look like. Therefore, the applicant's arguments are not persuasive and the rejection is proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul E Brock II whose telephone number is (703)308-6236. The examiner can normally be reached on 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703)308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Paul E Brock II
August 19, 2003

